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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/768,443 | 01/30/2004 | Frederick Ware | RAMB-01033US1 | 8919 |
| 38456 | 7590 | 11/15/2007 | EXAMINER | |
| DENIRO/RAMBUS 575 MARKET STREET SUITE 2500 SAN FRANCISCO, CA 94105 | | | NGUYEN, TRUNG Q | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2829 | |
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Please find below and/or attached an Office communication concerning this application or proceeding..

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/768,443 | Applicant(s) WARE ET AL. | |
| | Examiner Trung Q. Nguyen | Art Unit 2829 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 08/27/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-181 is/are pending in the application.
- 4a) Of the above claim(s) 15-179 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 180 and 181 is/are rejected.
- 7) ☒ Claim(s) 6-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 180-181 are rejected under 35 U.S.C. 102(e) as being anticipated by Neaves et al. (U.S. 7,183,790).

Regarding claims 1 and 180-181, Neaves et al. disclose in Fig. 3, a test circuit 220, a first element 202 and second element 206 comprises at least one of a transmitter 112 and receiver 114; wherein when the first element is couple to the test circuit 10 through 210 and the second element 206 is coupled to the first element 202 through 210; at least one of the first and second elements is capable of testing another one of the first and second element using the test circuit via through D_OUT0 and D_OUT1; and the first element comprises a receiver 114 when the second element comprises a transmitter 112.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neaves et al. (U.S. 6, 631,486) in view of Komatsu et al. (U.S. 6,631,486) and further view of Haruyama (U.S. 7,092,637).

Claims 2-4, Neaves et al. fail to disclose the semiconductor device is configured to operate at high frequencies (1Ghz-3Ghz). However, Komatsu et al. disclose a transmitter and receiver that perform at high-transfer rate signal pattern of the receiver 23 and transmitter 22 in column 6, lines 15-20 wherein transfer rate is about 400Mbps. In addition, Haruyama disclose in column 1, lines 30-35 that transfer rate of 400Mbps is operate at a gigahertz (high frequencies up to 5Ghz).

The transfer rate of 50Mbps to 400Mbps corresponds to the range of 1-5Ghz frequencies, which overlaps with the claimed ranged (See, e.g., *Atofina v. Great Lakes Chem. Corp*, 441 F.3d 991, 999, 78 USPQ2d 1417, 1423 (Fed. Cir. 2006).

Therefore, at the time of the subject invention, it would have been obvious for a person of ordinary skill in the art to use the transmitter and receiver as taught by Komatsu et al. in the device of Neaves et al. for the purpose of measuring the values of grating points and ensuring the positions of the electromagnetic wave sources at the arbitrary positions with high accuracy and at a high rate.

Regarding claim 5, Neaves et al. fail to disclose the test circuit includes a pattern generator and pattern compare circuitry. However, Komatsu et al. disclose a pattern generator 11 and compare circuitry 12 in Fig. 2.

Therefore, at the time of the subject invention, it would have been obvious for a person of ordinary skill in the art to use a pattern generator 11 and compare circuitry 12 as taught by Komatsu et al. in the device of Neaves et al. in order to provide a better indication of the other circuitry or signals dictates when the pattern set starts and ends, which pattern set is to be used, whether the transmitter or receiver is being used, and whether some of the pattern comparisons are to be ignored, or masked.

Response to Arguments

5. Applicant's arguments with respect to claims 1-5 have been considered. Some of the arguments are moot in new ground of rejection.

Allowable Subject Matter

6. Claims 6-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: claims 6 and 10 recite, inter alia, "at least one reference signal line that carries a voltage reference signal and wherein the test circuit includes at least one comparator circuit to compare at least one voltage signal representing received data with the voltage reference signal".

Claims 7-9 and 11-14 variously depending from claims 6 and 10 are allowable for the same above reasons.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trung Nguyen** whose telephone number is (571) 272-1966. The examiner can normally be reached on Monday through Thursday, 8:30AM – 5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ha Nguyen** can be reached at (571) 272-1678.

Trung Nguyen
Patent Examiner
Group Art Unit 2829
November 13, 2007.



HA TRAN NGUYEN
SUPERVISORY PATENT EXAMINER